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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/809,432

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Nobukata Okano

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12/14/2006

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EXAMINER

KIM, DAVID S

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 12/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/809,432

Applicant(s)

OKANO ET AL.

Examiner

David S. Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/26/04, 6/29/04, 8/13/04, 12/14/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements filed on **(1) 29 June 2004 and (2) 13 August 2004** do not fully comply with the requirements of 37 CFR 1.98(b) because:

(1) Form PTO-1449 is missing from Office records. Although Applicant's cover letter on 29 June 2004 mentions this form, the actual form is not shown in Office records.

(2) EPO Search Report listed on the IDS filed on 13 August 2004 is missing.

Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statements. NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statements being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-2, 6, 8, 10, and 20** are rejected under 35 U.S.C. 102(b) as being anticipated by Dowling et al. (WO 02/25842 A2, hereinafter "Dowling").

Regarding claim 1, Dowling discloses:

A communications system comprising:

a communications lighting apparatus (Fig. 5) having a first light source unit which emits illumination light (light source 132) and a second light source unit (transmitter 136) which transmits information in the form of an optical signal; and

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a mobile terminal device (e.g., mobile communication devices on p. 15, l. 3-20, portable devices on p. 48, l. 19-21) which receives the optical signal emitted by the second light source.

Regarding claim 2, Dowling discloses:

The communications system according to claim 1, wherein the second light source unit has an emission band in the near-infrared band, the intermediate far-infrared band or a longer wavelength band (infrared on p. 37, last paragraph).

Regarding claim 6, Dowling discloses:

The communications system according to claim 1, wherein the first light source unit intermittently emits an optical signal in a predetermined pattern (various patterns on p. 37, last paragraph).

Regarding claim 8, Dowling discloses:

A communications lighting apparatus (Fig. 5) comprising:

a first light source unit (light source 132) which emits illumination light; and

a second light source unit (transmitter 136) which transmits information in the form of an optical signal.

Regarding claim 10, Dowling discloses:

The communications lighting apparatus according to claim 8, wherein the second light source unit has an emission band in the near-infrared band, the intermediate far-infrared band or a longer wavelength band (infrared on p. 37, last paragraph).

Regarding claim 20, Dowling discloses:

The communications lighting apparatus according to claim 8, wherein the first light source unit intermittently emits an optical signal in a predetermined pattern (various patterns on p. 37, last paragraph).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. **Claims 3-4, 7, 9, 11-16, and 18-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dowling.

Regarding claims 3-4, Dowling does not expressly disclose:

(claim 3) The communications system according to claim 1, wherein the second light source unit has at least two light sources which intermittently emit light beams of the same wavelength, which are independent of each other.

(claim 4) The communications system according to claim 1, wherein the second light source unit has at least two light sources which intermittently emit light beams of different wavelengths, which are independent of each other.

However, Examiner takes Official Notice that both of these techniques are known in the art. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include these techniques in the apparatus of Dowling. One of ordinary skill in the art would have been motivated to do this to provide the benefit of providing multiple communication channels for increased transmission rates.

Regarding claims 7, Dowling does not expressly disclose:

The communications system according to claim 1, wherein the mobile terminal device has optical-signal display means for displaying the contents of the optical signal received.

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However, the mobile terminal devices of Dowling include devices that conventionally comprise displays, such as cellular telephones (Dowling, p. 15, middle paragraph) and portable computers (Dowling, p. 15, last two lines). Additionally, Examiner takes Official Notice that the technique of displaying the contents of a received signal is extremely common in the art. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to arrange such displays to display the contents of the optical signal received. One of ordinary skill in the art would have been motivated to do this for any number of common reasons for displaying the contents of a received signal, such as to verify the proper reception of the received signal or to alert a user about an improper reception of the received signal.

Regarding claim 9, Dowling does not expressly disclose:

The communications lighting apparatus according to claim 8, which can be replaced by an existing lighting apparatus.

However, Examiner takes Official Notice that such a replacement is an obvious technique. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to provide such a replacement for the apparatus of Dowling. One of ordinary skill in the art would have been motivated to do this, for example, to retrofit a lighting system to a less costly, simpler, existing lighting apparatus that does not require the detailed communication applications of Dowling.

Regarding claims 11-12, claims 11 and 12 are apparatus claims that introduce limitations that correspond to the limitations introduced by apparatus claims 3 and 4, respectively. Therefore, the recited means in apparatus claims 3-4 read on the corresponding means in apparatus claims 11-12.

Regarding claims 13-16, Dowling does not expressly disclose:

(claim 13) The communications lighting apparatus according to claim 8, wherein the second light source unit has an end-plane emission semiconductor laser used as a light source.

(claim 14) The communications lighting apparatus according to claim 8, wherein the second light source unit has a vertical-plane emission semiconductor laser used as a light source.

(claim 15) The communications lighting apparatus according to claim 8, wherein the second light source unit has a quantum-cascade semiconductor laser used as a light source.

(claim 16) The communications lighting apparatus according to claim 8, wherein the second light source unit is a combination of an end-plane emission semiconductor laser, a vertical-plane emission semiconductor laser, and a quantum-cascade semiconductor layer.

However, Examiner takes Official Notice that these various types of lasers are all well known in the art for providing optical sources for optical communications. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to employ any or all of them in any combination to provide the second light source unit of Dowling. One of ordinary skill in the art would have been motivated to do this since it is commonly known that lasers generally provide stronger communication signals than the LEDs of Dowling (p. 37, last paragraph).

Regarding claim 18, Dowling discloses:

The communications lighting apparatus according to claim 8, further comprising a recording medium (memory 150 in Fig. 5) which stores information and reading means (processor 140) for reading the information stored in the recording medium.

Dowling does not expressly disclose:

The communications lighting apparatus according to claim 8, further comprising a *removable* recording medium which stores information *to be transmitted in the form of an optical signal*, and reading means *for reading the information stored in the recording medium*.

However, notice that Dowling does disclose memory 150 and processor 140 in Fig. 5. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to arrange memory 150 to store information to be transmitted in the form of the optical signal and to arrange processor 140 to read this information stored in memory 140. One of ordinary skill in the art would have been motivated to do this since Dowling is relatively silent about the data signal source for transmitter 136, and the combination of a memory and a processor is an extremely conventional means for providing such a data signal source for a transmitter. That is, the data signal for transmitter 136 must originate from some

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source, and a memory, such as 150 in Fig. 5, is known as a common storage location for data to transmit as a signal.

Also, notice that Dowling suggests that memory 150 can be any of a number of various types of memory (p. 39, last paragraph). Examiner takes Official Notice that a removable memory would be another obvious type of suitable memory for Dowling. One of ordinary skill in the art would have been motivated to do this since removable memory is easy to replace, reprogram, and transport.

Regarding claim 19, Dowling discloses:

The communications lighting apparatus according to claim 8, further comprising an information input section for receiving from an external apparatus the information to be transmitted in the form of an optical signal (input/output circuitry 160 in Fig. 5) and recording means (memory 150).

However, Dowling does not expressly disclose:

said recording means *for recording the information received by the information input section*.

However, notice that the output from input/output circuitry 160 goes to processor 140 and memory 150. At the time the invention was made, it would have been obvious to one of ordinary skill in the art to arrange memory 150 to record the information received by the information input section. One of ordinary skill in the art would have been motivated to do this since Dowling is relatively silent about the destination of information received by the input/output circuitry 160, and a memory is an extremely conventional means for recording such information. That is, the received information must go to some destination, and it appears that memory 150 of Dowling would be the final destination for recording the received information from input/output circuitry 160.

7. **Claims 5 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Dowling as applied to the claims above, and further in view of Brooks (U.S. Patent No. 5,218,466).

Regarding claim 5, Dowling does not expressly disclose:

The communications system according to claim 1, further comprising a third light source unit which emits a visible light beam indicating a region in which the optical signal emitted from the second light source unit can be received.

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However, such a visible light source unit is known in the art, as shown by Brooks (104 in Figs. 1 and 3). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to include such a visible light source unit in the apparatus of Dowling. One of ordinary skill in the art would have been motivated to do this to indicate the occurrence of an event (Brooks, abstract), which is a useful status indicator.

Regarding claim 17, claim 17 is an apparatus claim that introduces limitations that correspond to the limitations introduced by apparatus claim 5. Therefore, the recited means in apparatus claim 5 read on the corresponding means in apparatus claim 17.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER